

## **Patent Abstracts of Japan**

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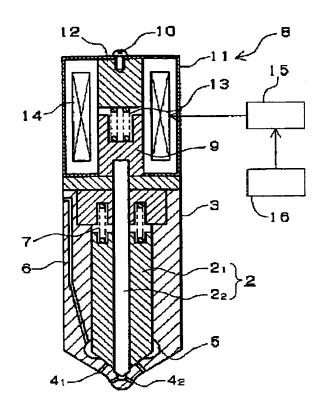
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TITLE

INJECTION PORT AREA

VARIABLE-TYPE FUEL INJECTION

**NOZZLE** 



## ABSTRACT :

PURPOSE: To facilitate a structure, so as to enhance reliability and durability, by making fuel to be injected from both outer injection port and an inner injection port when an outer needle is lifted while an inner needle is lifted.

CONSTITUTION: When a signal wherein load is increased more than the set value is input into a controller 15 from a load sensor 16, the controller 15 applies electric current for lifting an inner needle 22 to a solenoid 14 of a driving device 8. Thereby, a plunger 9 overcomes spring force of a return spring 13 and is attracted into the solenoid 14, and the inner needle 22 is lifted. The controller 15 is so formed that this electric current may be supplied while the engine load is raised, thereby the inner needle 22 continues lifting during the high-load operation, and fuel corresponding to load fluctuation can be injected from also an inner injection port 42 each time the outer needle 21 is lifted. Thereby, the injection port area can be easily changed according to the engine load.

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